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Quasirational models of sentencing

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ABSTRACT

Cognitive continuum theory points to the middle-ground between the intuitive and analytic modes of cognition, called quasirationality. In the context of sentencing, we discuss how legal models prescribe the use of different modes of cognition. These models aim to help judges perform the *cognitive balancing act* required between factors indicating a more or less severe penalty for an offender. We compare sentencing in three common law jurisdictions (i.e., Australia, the US, and England and Wales). Each places a different emphasis on the use of intuition and analysis; but all are quasirational. We conclude that the most appropriate mode of cognition will likely be that which corresponds best with properties of the sentencing task. Finally, we discuss the implications of this cognition-task correspondence approach for researchers and legal policy-makers.

1. Introduction

According to the normative legal model, the judge, in an unbiased way and directed by the law, carefully attends to all of the available information in a case, weighs it according to its significance for the issue at hand, and integrates it to make a decision. The judge is thus expected to perform a *cognitive balancing act* between factors for and against a specific decision. A judge's ability to perform this feat when making highly consequential decisions is accepted as a given: when judicial decisions are challenged, this is rarely on the basis of a judge's poor or biased decision-making but often on some misapplication of law or procedural mistake (Cohen, 2006). Judges, themselves, are highly confident in their decision-making abilities (Dhami & Ayton, 2001). After all, they are appointed on the basis of their "sound judgment" (e.g., see Judicial Appointments Commission, 2011, p. 66).

Past psychological research, however, demonstrates that judges may find it difficult to perform this cognitive balancing act. For instance, they may be unduly influenced by extra-legal factors in a case and may ignore or take insufficient account of legal factors (e.g., Dhami, 2003; Dhami & Ayton, 2001; Englich, Mussweiler, & Strack, 2006; Goodman-Delahunty & Sporer, 2010; Guthrie, Rachlinski, & Wistrich, 2001; Manning, Carroll, & Carp, 2004; Mitchell, 2005; Rachlinski, Johnson, Wistrich, & Guthrie, 2009; Turner & Johnson, 2006; von Helversen & Rieskamp, 2009). This results in disparities which erode public confidence in the criminal justice system (e.g., Smith, 2007).

Laws and legal policies (i.e., those translating laws into some form of guidelines) often prescribe how judges should make decisions. In the present paper, we use the context of criminal sentencing to discuss how legal models in this domain prescribe the use of different modes of cognition, with the assumption that these can help judges perform the *cognitive balancing act* required. Sentencing represents a key stage of the criminal justice process, and one that has significant ramifications not only for individual offenders and the public, but also for the wider justice system. We compare models of sentencing practice that currently exist in three common law jurisdictions (i.e., Australia, the US, and England and Wales), and show how each of these prescriptive models places a different emphasis on the use of intuition and analysis; but all are quasirational. We argue that in the absence of an evidence-based approach that shows which sentences (and which models) lead to which outcomes, the most appropriate mode of cognition for sentencing will likely be that which corresponds best with properties of the sentencing task. Finally, we discuss the implications that the above has for future research and for efforts to improve sentencing decisions. Before presenting our thesis, we provide a brief review of the literature on modes of cognition, followed by a description of the sentencing domain.

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2. Modes of cognition

According to cognitive theorists, there are different modes of cognition that have distinct properties. In particular, dual process theorists (e.g., Epstein, 1991; Evans & Over, 1996; Sloman, 1996; Stanovich & West, 2000) have been preoccupied with the cognitive modes of intuition and analysis (see also Evans, 2008 and Osman, 2004. For a more critical perspective on dual process theories, see e.g., Gigerenzer & Regier, 1996; Keren & Schul, 2009; Marewski, Gaissmeier & Gigerenzer, 2010).

Intuition (often also referred to as System 1, experiential, heuristic, and associative thinking; see also Glöckner & Witteman, 2010 for different types of intuition), is said to be acquired through a long history of evolution, human development and experience, and is visual (or non-verbal). It is generally considered to be an unconscious, implicit, automatic, holistic, fast process, with great capacity, requiring little cognitive effort. Intuition involves associative thinking and parallel processing that is affected by context. It is independent of education or intelligence, and is unaffected by the limits of working memory, but is dependent on prior experience.

By contrast, analysis (often also referred to as System 2, rational, analytic, and rule-based thinking) is generally characterized as a conscious, explicit, controlled, deliberative, flexible, slow process that has limited capacity and is cognitively demanding. It is more recent in human evolution and uses language. Analysis involves rule-based thinking and sequential processing that can operate in abstract or solve logical problems. The use of analysis depends not only on formal education and intelligence, but also on the capacity of working memory.

However, according to Hammond's (1996, 2000) cognitive continuum theory, there are modes of cognition that lie in-between intuition and analysis (see also Dhami & Thomson, 2012). These are called quasirational modes of cognition. As Hammond (2010, p. 331) points out, the term 'quasi' does not mean that quasirational modes of cognition are the result of "improper cognitive activity". Rather, quasirationality comprises different combinations of intuition and analysis, and so may sometimes lie closer to the intuitive end of the cognitive continuum and at other times closer to the analytic end (see also Sloman's 1996 view that intuition and analysis are interactive).

Whereas some dual process theorists suggest that intuition is the default mode of cognition, and that analysis overrides this only when necessary (e.g., Evans, 2007, 2008), others claim that intuitive and analytic modes compete for supremacy (e.g., Epstein, 1994; Sloman, 1996, 2002; Stanovich & West, 2000, 2002). However, for Hammond (1996, 2000), modes of cognition are determined by properties of the task (and/or expertise with the task). Others also state that decision strategies are adapted to task properties (see e.g., Gigerenzer, Todd, & the ABC Research Group, 1999). As we will discuss later, some properties are likely to induce intuition while others are more likely to induce analytic cognition. Success on a task inhibits movement along the cognitive continuum (or change in cognitive mode) while failure stimulates it. Movement along the cognitive continuum is characterized as oscillatory or alternating, thus allowing different forms of compromise between intuition and analysis (i.e., quasirationality).

Although there is a growing body of evidence on the nature and performance of intuitive versus analytic cognition (e.g., Dunwoody, Haarbauer, Mahan, Marino, & Tang, 2000; Haberstroh, 2008; Hammond, Hamm, Grassia, & Pearson, 1987; Mahan, 1994; Marewski & Mehlhorn, 2011), there is a distinct dearth of research on the operation and outcomes of quasirationality. In their recent efforts to identify the processes involved in intuitive versus analytic cognition, Glöckner and his colleagues have found some similarities and differences between these two modes of cognition (e.g., Glöckner & Betsch, 2008a, 2008b, 2012; Horstmann, Ahlgrimm, & Glöckner, 2009; Jekel, Glöckner, Fiedler, & Bröder, in press. For a critical response to Glöckner et al.'s integrative approach see Marewski, 2010 and Marewski & Link, 2014). The empirical findings suggest that the two modes of cognition may operate in an integrative fashion and thus potentially shed light on different forms of quasirationality. For instance, quasirationality may allow individuals to use a lot of information fast. Other work measuring the performance of different modes of cognition, for example by Blattberg and Hoch (1990), has demonstrated that a quasirational model which combined managerial intuition (expertise) and statistical analysis repeatedly outperformed purely intuitive and statistical models in five forecasting tasks (see also Ganzach, Kluger, & Klayman, 2000). Before we consider how specific modes of cognition are prescribed in different models of sentencing practice, we provide a brief description of the generic sentencing task.

3. Sentencing: a goal-oriented behavior occurring within constraints

A sentence is passed on an offender who has either pleaded guilty to an offence or been convicted of one. Officially, sentencing may be geared towards achieving one or more (sometimes competing) goals. These are punishing offenders justified on the grounds of desert or retribution, reducing crime via deterrence, rehabilitating offenders, protecting the public via incapacitation, and making reparations to victims (e.g., see Australian Law Reform Commission, 2006; Seghetti & Smith, 2007; Sentencing Council, 2013b).

Sentences are often determined within a number of constraints. Offences may have fixed maximum penalties assigned to them, usually in the form of a length of custody or fine amount, and may have mandatory minimum sentences. In addition, the available sentencing options (e.g., custody, community penalty, fine, and compensation) may be restricted by offence type (i.e., more or less serious offences) and by offender age (i.e., adult or youth).

Thus, with a set of goals in mind and within certain constraints, judges must determine an appropriate sentence for an offence (and offender). Sentencing is often predicated on the principle that each case is unique and dealt with on its own merits (e.g., see Sentencing Council, 2013a; United States Sentencing Commission, 2006). Judges are expected to consider legal factors such as the nature and seriousness of the offence and the offender's criminal history, and may take into account relevant aggravating and mitigating factors (e.g., vulnerability of the victim and whether the offender was provoked or showed remorse). Judges may also have access to sentencing recommendations provided by a probation officer or other professional, who assesses the potential impact of the sentence on the offender (and victim or society). Judges may also give a discount for a guilty plea (which reduces the severity of the final sentence), and they may consider the proportionality or 'totality' of a sentence, if the offender is to be sentenced for more than one offence. Finally, judges often have to give a reason for the sentence they pass.

The decision-making model that judges can apply differs across jurisdictions depending on whether, and how, sentencing laws are translated into sentencing guidelines. Reitz (2006) suggests that sentencing (and guideline) systems lie along a continuum ranging from discretionary to rule-based. Guidelines typically limit or control judicial discretion. They aim to focus judges' attention on legal factors and reduce the impact of extra-legal ones, as well as promote consistent decision-making both in terms of process and outcomes. In addition, guidelines sometimes aim to achieve effective sentencing in terms of reducing crime and increasing public safety, as well as acting as a resource management tool by increasing the cost-effectiveness of sentences. Finally, guidelines may aim

to increase public understanding and confidence in sentencing, including victim satisfaction.

However, to date, some jurisdictions have rejected sentencing guidelines. For instance, Australian state/territory and federal jurisdictions have resisted their introduction, and some would argue that judges have unfettered discretion (Krasnostein & Freiberg, 2013). By contrast, other jurisdictions in the US and England and Wales have introduced sentencing guidelines. Guidelines in many US states and the federal system are numerical, grid-based systems (see Frase, 2005a). By contrast, the guidelines recently introduced in England and Wales are narrative or text-based, offering a step-by-step guide (see Dhami, 2013a; Roberts, 2013). Thus, these two types of guidelines aim to control judicial discretion in different ways and to different degrees.

4. Quasirational models of sentencing

We contend that all jurisdictions prescribe a quasirational approach to sentencing, but that those who have rejected guidelines endorse a mode of quasirationality that lies closer to the intuitive end of the cognitive continuum. In addition, we suggest that jurisdictions which have adopted numerical, grid-based guidelines promote a mode of quasirationality that lies closer to the analytic end, whereas those that have adopted text-based, step-by-step guidelines encourage a greater balance between intuition and analysis. Below, we discuss the mode of cognition that dominates in each of the three sentencing (and guideline) systems mentioned above (i.e., Australia, in the US, and England and Wales). It is beyond the scope of the present paper to provide a comprehensive and in-depth description of these systems (interested readers are referred to Ashworth & Roberts, 2013; Edney & Bagaric, 2013; Frase, 2005a; Tonry & Frase, 2001).

4.1. 'Instinctive synthesis' in Australian sentencing

Australia's approach to sentencing at both the state/territory and federal level is formalized through the concept of 'instinctive synthesis' (sometimes called 'intuitive synthesis'). Instinctive synthesis views sentencing as a holistic, parallel process requiring great cognitive capacity. This view was first articulated by the Victorian Supreme Court in *R v Williscroft* (1975) and later approved by the High Court of Australia, in for example, *Wong v The Queen* (2001, at [74–76]), where the court stated that "the task of the sentencer is to take account of *all* the relevant factors and to arrive at a single result which takes due account of them all."

Similarly, the idea that sentencing is more intuitive than analytic, relying on experience, associative processes and context, was re-affirmed in the decision by the High Court in *Markarian v The Queen* (2005). Judge McHugh claimed that "there is no Aladdin's Cave of accurate sentencing methodology... There is only human judgment based on all the facts of the case, the judge's experience, the data derived from comparable sentences and the guidelines and principles authoritatively laid down in statutes and authoritative judgments" (at [71]). "Discretionary sentencing is not capable of mathematical precision or, for that matter, approximation" (at [65]).

One argument for the usefulness of intuition in sentencing derives from the notion of judges as experts in their field, which is also compatible with the idea that intuition relies heavily on implicit, associative processing and recognition (e.g., Klein, 2003; Simon, 1992). There is a common view amongst judges that "judicial experience in sentencing is a skill... Repeated exercise in synthesising sentencing factors can only hone the instinct required to translate such factors into just numerical outcomes," (McHugh in *Markarian v The Queen*, 2005 at [78]). The former High Court Justice Michael Kirby (Kirby, 1998, para. 15), views intuition as "simply the application to a particular case of the accumulated experience of professional life."

A number of recent developments have led to a somewhat more structured sentencing environment in Australia (see Krasnostein & Freiberg, 2013). For instance, some states/territories provide guideline judgements (i.e., model sentences passed by judges as examples to be followed for specific types of offences), baseline or minimum sentences in addition to maximums, and statistics on past sentencing practices. However, Australian sentencers still retain a significant degree of control over the sentencing process.

Thus, there remains in Australia an overwhelming emphasis on the retention of judicial discretion. Both state/territory and federal jurisdictions have rejected the possibility of introducing any kind of formal sentencing guidelines (e.g. Australian Law Reform Commission, 2006). Although there is consensus that sentencing in Australia involves judicial intuition, there is some disagreement about the nature of the cognitive process involved. Glöckner and Witteman (2010, p. 1) differentiate between four different forms of intuitive processing, namely, "(a) associative intuition based on simple learning–retrieval processes, (b) matching intuition based on comparisons with prototypes/exemplars, (c) accumulative intuition based on automatic evidence accumulation, and (d) constructive intuition based on construction of mental representations." Kirby's (1998) view is compatible with the idea of 'matching intuition' whereas the Australian High Court's majority viewpoint (especially in McHugh's remarks) is more indicative of 'constructive intuition.'

Some researchers have argued that intuition is useful (e.g., Hogarth, 2001; Klein, 2003; Payne, Bettman & Johnson, 1993) and can lead to good decision-making performance (e.g., Dane & Pratt, 2007; Gigerenzer, 2007; Gigerenzer et al., 1999; Salas, Rosen & DiazGranados, 2010). However, effective intuition relies on learning appropriate decision strategies. Such learning is also useful in the consistent application of these strategies. An individual may only be able to develop effective intuition when he/she has unequivocal feedback (Glöckner & Witteman, 2010; Kahneman & Klein, 2009; Shanteau, 1992). However, as Harvey (2011) points out, feedback may simply not facilitate learning in some complex tasks.

The sentencing task is complex. Sentencers receive little or no feedback on the outcomes of their own or others' sentencing decisions, and although official statistics on issues such as recidivism (reoffending) rates may be available, these are averages over offence types, offender types and court types, and are often unreliable (e.g., Hedderman, 2009; Richards, 2011). Some form of feedback may be available when a decision is appealed, but this is rare, and successful appeals largely reflect concerns over lack of due process rather than the outcome (Brignell & Donnelly, 2005; Sentencing Advisory Council, 2012). Thus, at most, judges may have available to them decisions made by others (and themselves) on comparable cases. If judges can develop useful intuition, it will be in relation to what the 'going rate' tariff is for a particular combination of offender and offence factors rather than in relation to passing sentences that are effective in achieving their goals (e.g., deterrence).

The dominant role of intuition in the instinctive synthesis approach to sentencing has attracted criticism from both academics (e.g., Bagaric, 1999; Edney, 2005; Edney & Bagaric, 2013; Freiberg & Krasnostein, 2011) and judges (e.g., Kirby, 1998). There are concerns over the lack of explanation that can be provided for intuitive judgments. For example, Judge Hulme observed in *R v Markarian* (2003 at [33]) that where a sentence is reached using instinctive synthesis, it makes one "wonder whether figures have not just been plucked out of the air". Indeed, the implicit nature of intuition may make it difficult for judges to externalize their decision-making,

and so the reasons they are required to give for their sentence may simply be post hoc rationalizations rather than veridical accounts of their cognitive processing (Nisbett & Wilson, 1977). A lack of transparency has been associated with public dissatisfaction with sentencing (Indermaur, 2008).

There are also concerns that intuitive decisions are too susceptible to extra-legal influences, including from judges' personal characteristics and experiences (see Sporer & Goodman-Delahunty, 2009). Justice Kirby (1998, p. 16) observed that "intuition may itself be the product of unrecognized psychological forces, cultural assumptions and social attitudes. . ." Edney (2005, p. 57) notes that "if the 'instinct' of the judicial move to sentence cannot be reasoned and detailed, is it simply no more than an emotional, gut reaction to the offence and offender?". Indeed, there is an abundant body of psychological research attesting to the deleterious effects of *unwanted* influences on human decision-making (see Gilovich, Griffin, & Kahneman, 2002; Kahneman, Slovic, & Tversky, 1982).

4.2. Striving for rational, rule-based sentencing in the US

The weaknesses inherent in intuitive decision-making suggest that perhaps an analytic approach to sentencing would be better able to deliver sentences that enable judges to achieve their goals. To this end, a number of US jurisdictions including Minnesota, Kansas, North Carolina, Virginia, Oregon, Washington and the federal courts have introduced highly structured, numerical, grid-based guidelines (see Frase, 2005b; National Center for State Courts, 2008). All of these promote explicit, deliberative processing, and all, to a lesser or greater extent, limit a sentencer's ability to depart from prescribed standard sentences.

A prominent example are the Minnesota guidelines which apply to all felonies (as defined in the Minnesota Criminal Code, 2006, subdivision 2). The guidelines use a rule-based format, and specific information is considered in sequence. Individual cases are considered in the 'abstract' (i.e., in relation to groups of offences and offenders).

Specifically, the guidelines comprise two axes, namely, offence seriousness and the offender's criminal history. The point along the grid where these two dimensions intersect determines the range in which the sentence may fall. In order to reach this intersection, first, the judge identifies the severity of the offence on a scale from 1 to 11, with 11 being the most severe, by consulting reference tables that list the severity level assigned to each offence (Minnesota Sentencing Guidelines Commission, 2012a, pp. 77–117). For the majority of offences, there is no flexibility in the assignment of severity. The judge then establishes the offender's criminal history score, on a scale from 0 to '6 or more', with '6 or more' indicating the most extensive criminal history, based on the offender's current and prior offences and custody status at the time of the offence. This is an entirely formulaic process with little or no scope for subjective input. Finally, the sentence is determined by consulting a two-dimensional grid with offence severity on the Y-axis and the offender's criminal history category on the X-axis.

Where the grid states the sentence should be custodial, a discretionary range within which the sentence must be fixed is also listed. Non-custodial sentences have no such discretionary range and the judge can set the precise terms of the sentence, which typically include probation plus other obligations such as fines, treatment programs, community work and/or house arrest (Minnesota Sentencing Guidelines Commission, 2012b). The guidelines are 'presumptive' in that the sentences specified in the grids are presumed to be appropriate. However, judges may depart from a guideline sentence by citing "substantial and compelling circumstances" (Minnesota Sentencing Guidelines Commission, 2012a, p. 2). In 2011, only 26.5% of sentences departed from the presumptive sentence (Minnesota Sentencing Guidelines Commission, 2013).

One could argue that a predominately analytic approach to sentencing is potentially useful because it can reduce unwanted sentencing disparity by increasing uniformity (similar offenders committing similar offences are punished equivalently), and it supports a consistent approach to proportionality (different offenders committing different offences receive appropriately different sentences). In addition, grid-based guidelines appear to be transparent and advocate certainty of outcome. However, such an analytical approach to sentencing requires that efforts are made to ensure the factors to be considered are the most appropriate ones, namely, they can help achieve the goals of sentencing. Errors made early on in the process (e.g., about offence seriousness) can have significant ramifications later on. And, these errors will be repeated since this approach is applied consistently across cases. Indeed, Ruback and Wroblewski (2001) argue that the aggravating factors included in the federal guidelines have limited reliability and validity, and this leads to lower quality decisions.

The US numerical, grid-based guidelines have been criticized both in the US and elsewhere. Some have argued that they are too complex (e.g., Ruback & Wroblewski, 2001; Sessions, 2010). The federal guidelines are particularly complex, with six different categories of criminal history and 43 categories of offence severity (United States Sentencing Commission, 2012a). Ruback and Wroblewski (2001, p.769) argue that the complexity of the federal guidelines has lowered both the quality of the decisions and the motivation of judges, whose "craft" has been "deskilled" and who feel "alienated from their jobs".

The analytic approach to sentencing has also been criticized for being too rigid, mechanistic, restrictive and inflexible (Aas, 2005; Council of HM Circuit Judges, 2008; Freed, 1992; Judiciary of England and Wales, 2008; Ruback & Wroblewski, 2001; Schulhofer, 1992; Sessions, 2010; Stith & Cabranes, 1998; Tonry, 1996; but see Reitz, 2006). Such guidelines have fairly narrow sentencing ranges. This leaves "little room for judicial creativity" (Wasik, 2008, p. 201), and generates excessive uniformity in sentences, especially when there are few acceptable grounds for departure. Critics argue that both offences and offenders are complex in terms of their number and nature of variables and the inter-relations between these variables as well as their determinants. Numerical, grid-based guidelines appear to take insufficient account of offenders' personal circumstances and seem too crude, narrow and blunt to allow truly individualized sentencing. However, adding such complexity to an analytic sentencing approach would render it potentially intractable.

Others maintain that the US guidelines appear to be an impersonal, arbitrary "sentencing machine" (Tonry, 1996, p. 91). The idea that the characteristics of each offence and offender can be objectively measured, weighted and combined by some algorithmic formula is said to be dehumanizing (Aas, 2005). Indeed, the numerical, grid-based approach appears incompatible with the notion that sentencing is ultimately a "human process" (Traynor & Potas, 2002, p. 22), and extrapolating what is a 'fair' sentence from general penal principles or populations of offenders and then applying that to individual situations appears conceptually questionable. It is arguable that a sentence can only be 'fair' in relation to a specific offender who has committed a particular offence. In their rejection of the US approach, the Australian Law Reform Commission (2006, p. 538) concluded that grid-based sentencing "inappropriately prioritises consistency over individualised justice".

Finally, others have pointed out that numerical, grid-based guidelines do not necessarily reduce unwanted disparities and biases in sentencing. For instance, a 15-year review of the US federal sentencing guidelines concluded that there were both positive and negative outcomes associated with their use (United States Sentencing Commission, 2005). The guidelines increased the transparency and predictability of sentencing and reduced inter-judge

and regional disparities. On the other hand, they also reduced the use of simple probation while dramatically increasing the use and length of incarceration. The guidelines failed to reduce inter-judge disparities for some offences, and regional differences for some offences actually increased. In addition, the guidelines failed to eradicate some ethnic/race and gender disparities in sentencing. Notably, these mandatory federal guidelines became merely advisory following a legal challenge in the US Supreme Court (Seghetti & Smith, 2007), and some claim this has lead to greater departures and increased disparities (Sessions, 2010). Evidence produced by the US Sentencing Commission supports this conclusion (United States Sentencing Commission, 2012b; see also Yang, 2014).

4.3. Balancing intuition and analysis: sentencing guidelines in England and Wales

The English approach to sentencing lies in-between the US and Australian approaches. Sentencing guidelines were first introduced in England and Wales in 2004 following John Halliday's (2001, p. 54) advice that the goal "should be structured and principled decision making, not adherence to pre-determined outcomes, and within a framework based on deliberation and consultation, accessible to all, and capable of being modified in the light of experience." Thus, in a compromise between intuition and analysis, the sentencing guidelines in England and Wales promote an approach to sentencing that mandates a step-by-step process, which retains sufficient discretion to allow flexibility in response to factual elements unique to each case while simultaneously guiding that discretion so as to encourage consistency of process and outcome.

The guidelines are produced for specific offences (and categories of offences) such as assaults (Sentencing Council, 2011), as well as for generic issues such as reduction in sentence for a guilty plea (Sentencing Council, 2007). The current offence-specific guidelines employ a nine-step process (previously eight steps; see Dhami, 2013a and Roberts, 2013). The first step involves determination of the relevant offence category (i.e., level of offence seriousness). This combines consideration of the degree of harm caused and the culpability of the offender; with there being three possible degrees of seriousness (i.e., greater harm and higher culpability, greater harm and lower culpability or lesser harm and higher culpability, and lesser harm and lower culpability). Judges are provided with a list of the factors whose presence should indicate greater harm and higher culpability.

The second step requires identification of the appropriate category range (i.e., the range of sentence appropriate for a level of offence seriousness) and starting point within that range. The starting point applies to all offenders irrespective of plea or previous convictions. A list of aggravating and mitigating factors is provided that, in combination, may give judges reasons for upward and downward departures from the starting point (and even to move outside the category range where appropriate). In addition, the presence of multiple factors indicating higher culpability can also warrant upward departures.

Step three ensures consideration of any factors (e.g., offender's assistance to prosecution) that should indicate a reduction in sentence. Step four requires that a reduction in sentence is given for a guilty plea (and there is a separate guideline helping judges calculate the amount of reduction to be applied depending on the stage in the criminal justice process where the offender pleaded guilty; Sentencing Council, 2007). Step five involves determination of the degree of dangerousness of the offender and whether that would indicate an indeterminate sentence (i.e., where the court sets a minimum term of imprisonment to be served before the offender is eligible for parole). Step six requires judges to apply the 'totality principle' when sentencing for more than one offence so the total sentence is 'just and proportionate' (and there is a separate guideline aiding judges in this task; Sentencing Council, 2012).

Once the final sentence has been reached, step seven ensures that judges also consider if it is appropriate to impose a compensation order and/or ancillary orders (e.g., driving disqualification, restraining order). Step eight requires judges to provide reasons for their sentence and explain its (potential) effect. Finally, step nine ensures that judges consider a reduction in sentence for any time spent on remand in custody while awaiting trial and sentence. In addition, where relevant, the guidelines may include an annex, which, for example, sets out the notion of fine bands and community orders. The fine bands have starting points and category ranges, and the community orders are ranked as low, medium and high.

The courts must follow the sentencing guidelines unless 'it would be contrary to the interests of justice to do so' (Coroners and Justice Act, 2009, section 125). To-date, as little as 4% or fewer sentences have fallen outside the category range for offences covered by the guidelines for assault, burglary and drugs (Sentencing Council, 2013a).

Therefore, the English approach to sentencing guidelines is somewhat more complex than the US approach because it involves more steps, but also more transparent than the Australian approach because it specifies the process involved at specific steps. English judges were opposed to the US approach because it was seen to be too restrictive of their discretion and would make it difficult for them to pass individualized sentences (Gage, 2008). Hutton (2013, p. 102) states that the English guidelines "do not prescribe a 'correct' sentence: they do not provide a formula or algorithm which can be applied by any judicial officer to generate the right sentence for a case. Guidelines leave a space for the exercise of judgment and the decision made in this space is justified by the argument that sentencing is a matter of judgment at the level of the individual case. So two modes of justification sit side by side: a formal process of accountability set by the legislation and the guidelines and substantive justification encapsulated by the term 'instinctive synthesis.'"

In both England and Wales and Australia, judges must use their intuition to assimilate factors into an appropriate sentence. The difference between these jurisdictions lies in the relative emphasis given to intuition and analysis. The Australian High Court rejected any sentencing approach articulated in terms of multiple stages or steps as depicted by the English guidelines, viewing it as overly mechanical and likely to result in an overemphasis on the objective seriousness of the offence (*Markarian v The Queen*, 2005). In Australia, intuition is paramount when the judge uses factors that he/she deems to be relevant (in addition to those that are specified by legislation) to reach a final tariff, subject to any applicable legislation regarding maximum or minimum sentences. By contrast, in England and Wales, the factors to be considered at each stage of the sentencing process are made more explicit, along with the direction in which they point (e.g., greater harm). In addition, the starting sentence is prescribed for given levels of offence seriousness.

No evaluation research has yet been conducted to examine if the English guidelines have helped judges achieve their sentencing goals. A recent survey of judges by Dhami (2013b) revealed that they believed the guidelines could increase the consistency of sentences passed by *different* judges on similar types of cases, as well as the consistency of sentences passed by individual judges across similar types of cases over time. Judges also said the guidelines were useful. Although to a lesser extent, they also thought that guidelines had increased their awareness of their own sentencing practice and their confidence in their sentencing decisions. However, judges were less likely to think that guidelines could reduce the impact of extraneous factors in sentencing.

The approach to sentencing in England and Wales has also invited some criticism from those who believe the guidelines allow

for too much discretion (Dhami, 2013a, 2013b; Hutton, 2013; Reitz, 2013). The English guidelines are accused of being ambiguous, lacking in precision and transparency, and affording too much subjective interpretation. One proposed solution is for judges to give more detailed reasons for departures (Reitz, 2013), although this may be difficult where intuition guides the departures. Another solution is to introduce greater structure (Dhami, 2013a; Reitz, 2013), and to this end, Dhami (2013a, 2013b), who acted as an advisor to the Sentencing Council for the current guidelines, proposes the use of a flowchart format. However, judges may be critical of guidelines that are highly specified and which move them closer to the analytic end of the cognitive continuum. As Dhami (2013b) found, judges typically disagreed with proposals that would enable sentencing guidelines to better guide their decision-making process. These proposals included specifying the factors to be considered, as well as how they should be weighted and integrated.

4.4. Summary: models of sentencing

The grid-based sentencing guidelines in the US and the step-by-step guidelines in England and Wales both prescribe a process where the cognitive task of sentencing is broken down into its component parts. In England and Wales, these are: determining the offence category, locating a sentence along the category range, considering reduction for a guilty plea, considering dangerous, and considering totality if relevant. In the Minnesota guidelines, the component parts of the sentencing task are: determining offence severity, calculating the criminal history score, consulting the sentencing grid, and making an adjustment if necessary. By contrast to the above two approaches, in Australia sentencing is a more holistic process where the sentencer identifies the factors considered to be relevant (according to legal policy and themselves) and then weighs and integrates them in a manner of his or her choosing.

5. Correspondence between cognition and task

Theoretically speaking, the most appropriate mode of cognition for the sentencing task should be determined by the type of strategy required for reaching a sentencing decision that can best help a judge achieve his/her goals. However, the goals of sentencing can be multiple and competing. In addition, there has been little effort to empirically determine how best to achieve these goals, and consequently, what type of decision strategy will be most effective. Thus, in the absence of an evidence-based approach showing which sentences and which sentencing models lead to which outcomes, the most appropriate mode of cognition may simply be that which is most practical given the properties of the sentencing task.

Many cognitive theorists have stressed the importance of the correspondence or fit between the mode of cognition and properties of the task (e.g., Anderson, 1990; Gigerenzer et al., 1999; Hammond, 1996, 2000; Howes, Lewis, & Vera, 2009; Marewski & Schooler, 2011; Simon, 1956, 1990. For early work see Brunswik, 1943, 1952, 1956). In particular, Hammond (1996, 2000) states that cognitive modes are induced by task properties and experience with the task (see also Epstein's 1991 idea that task stimuli activate different modes of cognition). According to Hammond, cognitive tasks can be differentiated from one another with regard to their properties as well as the mode of cognition they may induce (see also Dhami & Thomson, 2012). There is evidence that cognitive mode can shift during a task (e.g., Hamm, 1988).

Task properties include, for example, the amount of information, its degree of redundancy, format, and order of presentation, as well as the decision-maker's familiarity with the task, opportunity for feedback, and extent of time pressure. Properties such as familiarity with the task, a lot of information, information that is subjectively interpreted, and many response options are believed to be more likely to induce intuition than analysis. By contrast, tasks comprising properties such as unfamiliarity with the task, little information, information that is objectively interpreted, and few response options are said to be more likely to induce analysis than intuition.

The cognitive mode induced will depend on the number, nature and degree of task properties present. A task comprising either intermediate levels of, or a combination of, those properties inducing pure intuition or pure analysis will instead induce quasi-rationality. Depending on the task properties, quasirationality may imply a combination where there is greater use of intuition than analysis, or vice versa. Hammond (1988) predicted that decision-making performance is contingent on the degree of correspondence between the task properties and the mode of cognition applied; implying that pure analysis may be neither necessary nor sufficient for ceiling-level performance. Indeed, evidence suggests that task characteristics are important in determining the upper bound for performance (e.g., Seifert & Hadida, 2013), and that achievement is greater when the cognitive mode matches that induced by the task (e.g., Dunwoody et al., 2000; Hammond et al., 1987).

The generic sentencing task described earlier includes several properties predicted by Hammond to induce intuition. For example, a large number of factors must be considered; some of these factors may be highly inter-correlated; many of the factors must be assessed subjectively; and there are many sentencing options. In addition, judges can make sentencing decisions routinely, thus allowing them to become familiar with the task. However, several other properties of the sentencing task are predicted to induce analysis. For example, information is presented sequentially and in verbal or textual format. There is no time pressure, but also no outcome feedback. Finally, the requirement for judges to give reasons for their decisions and to be aware of sentencing laws is more likely to induce analysis. Thus, the sentencing task presents many obstacles and challenges to the use of pure analysis or intuition. For this reason, Hammond (1996) views sentencing as a task that requires application of a mode of cognition that lies in the middle range of the cognitive continuum (with intuition and analysis at each end). He states that "One of the clearest examples of the role of quasirationality in policy formation can be seen in the effort to find a compromise between the discretionary powers of judges and the provision of sentencing guidelines." (p. 176).

Sentencing using the English guidelines is more explicit and deliberative than in the Australian system, but less rule-based than that in the US. The English guidelines require more cognitive effort than the Australian approach, and are also slower than the US approach. However, the quasirational approach to sentencing in England and Wales means that judges are better able to deal with complex verbal and non-verbal factors. They are encouraged to use both parallel and sequential processing. Finally, judges are encouraged to consider cases in the abstract as well as in their individualized contexts. Thus, the model of sentencing prescribed in England and Wales has greater correspondence between the task and cognition.

6. Conclusion and implications

In the present paper, we discussed various ways in which judges, when sentencing, try to achieve the *cognitive balancing act* required between factors that indicate a more or less severe penalty for an offender. In principle, all of the jurisdictions we have examined (i.e., Australia, in the US, and England and Wales) prescribe a quasirational approach to sentencing. However, in rejecting sentencing guidelines, the Australian model endorses a mode of

quasirationality that lies closer to the intuitive end of the cognitive continuum. By contrast, in efforts to limit or control judicial discretion, the US numerical, grid-based guidelines endorse a mode of quasirationality that lies closer to the analytic end. Finally, the step-by-step guidelines in England and Wales promote a greater compromise between intuition and analysis.

The key question for legal policy-makers in jurisdictions across the world has been where the balance should lie between judicial intuition and analysis. The extensive body of psychological research highlighting the errors and biases that might result from intuitive judgement suggests that the balance may need to shift further towards a structured, analytic approach to sentencing. However, sentencing closer to the analytic end of the cognitive continuum is a disturbingly dehumanizing experience. Until the task of sentencing becomes evidence-based (e.g., where judges know what type of sentence and how much of it is required to achieve goals such as deterrence), we propose that a quasirational mode lying in the mid-point of the cognitive continuum may be most appropriate and practical. This is because the sentencing task, as it stands, comprises a combination of those properties that induce intuition and analysis.

According to Hammond (1996, p. 175) the main advantage of quasirationality is that "It is far easier to reach a compromise on a policy or plan within a framework of quasirationality than if either polar form of cognition is controlling the process. Strict adherence to intuition demands that the mysteries of judgment be left untouched by criticism; strict adherence to analysis is intolerant of deviations from any step in the process." Glöckner and his colleagues have also suggested that quasirationality can harness the unique advantages of intuitive and analytic cognition (Glöckner & Betsch, 2008a, 2008b, 2012; Horstmann et al., 2009; Jekel et al., in press).

A 'cognition-task' correspondence approach to sentencing has clear implications for both researchers and legal policy-makers. In their efforts to improve sentencing decisions, policy-makers should develop prescriptive models (i.e., sentencing guidelines) that encourage a mode of cognition which corresponds with properties of the task. In order to do this, they must identify properties of the task, attempt to alter properties which may lead to biased or inconsistent decisions, and provide the decision-maker with aids that help overcome any cognitive limitations (i.e., attention, memory and processing capacity) so they can comfortably apply the prescribed mode of cognition.

Thus, researchers must provide the evidence necessary for such legal reforms. They should examine the effects of specific properties of the sentencing task both in isolation and in combination on the sentencing process and decision. This will require researchers to deconstruct the sentencing task (see Dhami, Hertwig, & Hoffrage, 2004). Researchers will also need to obtain multiple dependent measures that signify the use of different modes of cognitive processing (see Glöckner & Witteman, 2010). In addition, researchers should also seek to develop and test decision aids that can effectively help sentencers apply the prescribed mode of cognition.

Finally, research should also explore the mode of cognition induced by the different sentencing models currently being prescribed across different jurisdictions, and their effects on the use of extra-legal factors, the sentences passed, and the consistency of these sentences. As Engel and Weber (2007, p. 323) point out, "*how* we decide often determines *what* we decide". Through shaping tasks, decision-making modes and the resources available, legal institutions can, and have, influenced how sentencing judges decide. However, it is not always clear if this has also affected what they decide, and so future research should compare the effect of different decision strategies (models) on the sentences meted out.

Conflict of interest

The authors declare that they have no conflict of interest.

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